

# Stanford

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## Jiangbin Ye

Assistant Professor of Radiation Oncology  
Radiation Oncology - Radiation and Cancer Biology

### Bio

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#### BIO

##### Education

University of Pennsylvania (Doctor of Philosophy) 2010 Cancer Biology  
Fudan University, Shanghai, China (Bachelor of Science) 2004 Biological Science

##### Research Experience

2016.9-present Assistant Professor

Department of Radiation Oncology, Stanford University

Research interests: The interaction between metabolic stress and chromatin remodeling.

2011-2016 Research Scholar

Memorial Sloan Kettering Cancer Center

Laboratory of Craig B. Thompson, M.D.

Research interests: Serine and one-carbon unit metabolism in cancer; Nutrient-sensing mechanisms in mammalian cells.

2010-2011 Postdoctoral Fellow

Abramson Family Cancer Research Institute, University of Pennsylvania School of Medicine, Laboratory of Craig B. Thompson, M.D.

2005-2010 Graduate Student

Department of Cancer Biology, Wake Forest University (2005-2006) and Department of Radiation Oncology, University of Pennsylvania School of Medicine (2006-2010), Laboratory of Constantinos Koumenis, Ph.D

Dissertation: The role of the transcription factor ATF4 in tumor progression under nutrient deprivation and hypoxia.

#### ACADEMIC APPOINTMENTS

- Assistant Professor, Radiation Oncology - Radiation and Cancer Biology
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)

- Member, Stanford Cancer Institute

### **ADMINISTRATIVE APPOINTMENTS**

- Affiliated Faculty, Stanford Bio-X, (2016- present)
- Member, The Child Health Research Institute (CHRI) at Stanford, (2016- present)
- Member, The American Association for the Advancement of Science, (2016- present)
- Member, Cancer Epigenetics Society, (2017- present)
- Associate Member, Canary Center at Stanford for Cancer Early Detection, (2018- present)
- Member, American Association of Cancer Research, (2018- present)

### **HONORS AND AWARDS**

- Solutions Innovation Research Award, Agilent (2023)
- MCR Michael B. Kastan Award for Research Excellence, AACR (2022)
- Faculty scholar award, Stanford MCHRI (2020)
- Research Scholar Award, American Cancer Society (2020)
- Innovative Cancer Research Award, Mary Kay Foundation (2017)
- NIH Pathway to Independence Award, National Cancer Institute (2015)
- AACR Scholar-in-Training Award, AACR (2015)
- People's Scholarship, First Class, Fudan University (2004)
- People's Scholarship, First Class, Fudan University (2003)
- Freshman Scholarship, First Class, Fudan University (2000)
- Silver Medal, International Biology Olympiad (2000)

### **BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS**

- Member, Cancer Epigenetics Society (2016 - present)
- Member, American Association for Cancer Research (AACR) (2007 - present)

### **PROFESSIONAL EDUCATION**

- Ph.D, University of Pennsylvania , Cancer Biology (2010)
- B.S, Fudan University , Biological Science (2004)

### **LINKS**

- Ye Lab: <http://med.stanford.edu/yelab.html>

## **Research & Scholarship**

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### **CURRENT RESEARCH AND SCHOLARLY INTERESTS**

One hallmark of cancer is that malignant cells modulate metabolic pathways to promote cancer progression. My professional interest is to investigate the causes and consequences of the abnormal metabolic phenotypes of cancer cells in response to microenvironmental stresses such as hypoxia and nutrient deprivation, with the prospect that therapeutic approaches might be developed to target these metabolic pathways to improve cancer treatment.

## Teaching

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### STANFORD ADVISEES

#### Orals Chair

Ron Shanderson

#### Postdoctoral Faculty Sponsor

Haowen Jiang

### GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Cancer Biology (Phd Program)

## Publications

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### PUBLICATIONS

- **Mitochondrial uncoupling inhibits reductive carboxylation in cancer cells.** *Molecular cancer research : MCR*  
Jiang, H., He, C. J., Li, A. M., He, B., Li, Y., Zhou, M., Ye, J.  
2023
- **Differential effects of SARM1 inhibition in traumatic glaucoma and EAE optic neuropathies.** *Molecular therapy. Nucleic acids*  
Liu, P., Chen, W., Jiang, H., Huang, H., Liu, L., Fang, F., Li, L., Feng, X., Liu, D., Dalal, R., Sun, Y., Jafar-Nejad, P., Ling, et al  
2023; 32: 13-27
- **PHGDH-mediated endothelial metabolism drives glioblastoma resistance to chimeric antigen receptor T cell immunotherapy.** *Cell metabolism*  
Zhang, D., Li, A. M., Hu, G., Huang, M., Yang, F., Zhang, L., Wellen, K. E., Xu, X., Conn, C. S., Zou, W., Kahn, M., Rhoades, S. D., Weljie, et al  
2023
- **Small-molecule toosendanin reverses macrophage-mediated immunosuppression to overcome glioblastoma resistance to immunotherapy.** *Science translational medicine*  
Yang, F., Zhang, D., Jiang, H., Ye, J., Zhang, L., Bagley, S. J., Winkler, J., Gong, Y., Fan, Y.  
2023; 15 (683): eabq3558
- **The magic bullet: Niclosamide.** *Frontiers in oncology*  
Jiang, H., Li, A. M., Ye, J.  
2022; 12: 1004978
- **Mitochondrial uncoupling induces epigenome remodeling and promotes differentiation in neuroblastoma.** *Cancer research*  
Jiang, H., Greathouse, R. L., Tiche, S. J., Zhao, M., He, B., Li, Y., Li, A. M., Forgo, B., Yip, M., Li, A., Shih, M., Banuelos, S., Zhou, et al  
2022
- **Use of Niclosamide Ethanolamine as a Mitochondrial Decoupler in Neuroblastoma**  
Rafeeqi, T., Jiang, H., Greathouse, R., He, B., Li, A., Shimada, H., Ye, J., Chiu, B.  
LIPPINCOTT WILLIAMS & WILKINS.2022: S194-S195
- **A stromal integrated stress response activates perivascular cancer-associated fibroblasts to drive angiogenesis and tumor progression**  
Verginadis, I. I., Avgousti, H., Kim, K., Skoufos, G., Chinga, F., Leli, N., Karagounis, I. V., Bell, B. I., Velalopoulou, A., Wu, V. S., Li, Y., Ye, J., Scott, et al  
AMER ASSOC CANCER RESEARCH.2022
- **Serine starvation silences estrogen receptor signaling through histone hypoacetylation**  
Li, A. M., Li, Y., He, B., Jiang, H., Lu, C., Gruber, J. J., Rankin, E. B., Ye, J.  
AMER ASSOC CANCER RESEARCH.2022
- **Deciphering the Warburg effect: Redox is the key to tumor differentiation**  
Jiang Haowen, Greathouse, R. L., He, B., Li, Y., Li, A. M., Forgo, B., Banuelos, S., Gruber, J., Shimada, H., Chiu, B., Ye, J.  
AMER ASSOC CANCER RESEARCH.2022

- **A stromal Integrated Stress Response activates perivascular cancer-associated fibroblasts to drive angiogenesis and tumour progression.** *Nature cell biology*  
Verginadis, I. I., Avgousti, H., Monslow, J., Skoufos, G., Chinga, F., Kim, K., Leli, N. M., Karagounis, I. V., Bell, B. I., Velalopoulou, A., Salinas, C. S., Wu, V. S., Li, et al  
2022
- **NMNAT2 and NAD(+) are Downregulated in Glaucomatous RGCs and Overexpression of NMNAT2 Rescues Glaucomatous Neurodegeneration**  
Liu, D., Fang, F., Zhuang, P., Feng, X., Liu, P., Huang, H., Li, L., Chen, W., Liu, L., Sun, Y., Jiang, H., Ye, J., Hu, et al  
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2022
- **Aldehyde dehydrogenase 3A1 deficiency leads to mitochondrial dysfunction and impacts salivary gland stem cell phenotype.** *PNAS nexus*  
Viswanathan, V., Cao, H., Saiki, J., Jiang, D., Mattingly, A., Nambiar, D., Bloomstein, J., Li, Y., Jiang, S., Chamoli, M., Sirjani, D., Kaplan, M., Holsinger, et al  
2022; 1 (2): pgac056
- **beta-Cell Succinate Dehydrogenase Deficiency Triggers Metabolic Dysfunction and Insulinopenic Diabetes.** *Diabetes*  
Lee, S., Xu, H., Van Vleck, A., Mawla, A. M., Li, A. M., Ye, J., Huising, M. O., Annes, J. P.  
2022
- **NMNAT2 Is Downregulated in Glaucomatous RGCs and RGC-Specific Gene Therapy Rescues Neurodegeneration and Visual Function.** *Molecular therapy : the journal of the American Society of Gene Therapy*  
Fang, F., Zhuang, P., Feng, X., Liu, P., Liu, D., Huang, H., Li, L., Chen, W., Liu, L., Sun, Y., Jiang, H., Ye, J., Hu, et al  
1800
- **Mitochondria-Rich Extracellular Vesicles From Autologous Stem Cell-Derived Cardiomyocytes Restore Energetics of Ischemic Myocardium.** *Journal of the American College of Cardiology*  
Ikeda, G. n., Santoso, M. R., Tada, Y. n., Li, A. M., Vaskova, E. n., Jung, J. H., O'Brien, C. n., Egan, E. n., Ye, J. n., Yang, P. C.  
2021; 77 (8): 1073–88
- **Developing metabolic intervention strategies to reprogram neuroblastoma epigenome and overcome tumor resistance to differentiation therapy**  
Jiang, H., Li, Y., Yip, M., Gruber, J., Li, A., Ye, J.  
AMER ASSOC CANCER RESEARCH.2020
- **Deciphering Warburg effect: hypoxia inhibits tumor cell differentiation through reducing acetyl-CoA generation and chromatin accessibility**  
Ye, J., Li, Y., Gruber, J. J., Litzenburger, U. M., Zhou, Y., Miao, Y. R., LaGory, E. L., Li, A. M., Hu, Z., Hart, L. S., Maris, J. M., Chang, H. Y., Giaccia, et al  
AMER ASSOC CANCER RESEARCH.2020
- **Reprogramming of serine metabolism during breast cancer progression**  
Li, A., Ducker, G. S., Li, Y., Seoane, J. A., Xiao, Y., Melemenidis, S., Zhou, Y., Liu, L., Vanharanta, S., Graves, E. E., Rankin, E. B., Curtis, C., Massague, et al  
AMER ASSOC CANCER RESEARCH.2020
- **The PHGDH enigma: do cancer cells only need serine or also a redox modulator?** *Cancer letters*  
Li, A. M., Ye, J. n.  
2020
- **Reprogramming of serine, glycine and one-carbon metabolism in cancer.** *Biochimica et biophysica acta. Molecular basis of disease*  
Li, A. M., Ye, J. n.  
2020: 165841
- **The m6A RNA demethylase FTO is a HIF-independent synthetic lethal partner with the VHL tumor suppressor.** *Proceedings of the National Academy of Sciences of the United States of America*  
Xiao, Y. n., Thakkar, K. N., Zhao, H. n., Broughton, J. n., Li, Y. n., Seoane, J. A., Diep, A. N., Metzner, T. J., von Eyben, R. n., Dill, D. L., Brooks, J. D., Curtis, C. n., Leppert, et al  
2020
- **Metabolic Profiling Reveals a Dependency of Human Metastatic Breast Cancer on Mitochondrial Serine and One-Carbon Unit Metabolism.** *Molecular cancer research : MCR*  
Li, A. M., Ducker, G. S., Li, Y. n., Seoane, J. A., Xiao, Y. n., Melemenidis, S. n., Zhou, Y. n., Liu, L. n., Vanharanta, S. n., Graves, E. E., Rankin, E. B., Curtis, C. n., Massague, et al  
2020
- **p53 deficiency triggers dysregulation of diverse cellular processes in physiological oxygen.** *The Journal of cell biology*

- Valente, L. J., Tarangelo, A. n., Li, A. M., Naciri, M. n., Raj, N. n., Boutelle, A. M., Li, Y. n., Mello, S. S., Biegging-Rolett, K. n., DeBerardinis, R. J., Ye, J. n., Dixon, S. J., Attardi, et al  
2020; 219 (11)
- **Novel Aza-podophyllotoxin derivative induces oxidative phosphorylation and cell death via AMPK activation in triple-negative breast cancer.** *British journal of cancer*  
Tailor, D. n., Going, C. C., Resendez, A. n., Kumar, V. n., Nambiar, D. K., Li, Y. n., Dheeraj, A. n., LaGory, E. L., Ghoochani, A. n., Birk, A. M., Stoyanova, T. n., Ye, J. n., Giaccia, et al  
2020
  - **Acetate supplementation restores chromatin accessibility and promotes tumor cell differentiation under hypoxia.** *Cell death & disease*  
Li, Y. n., Gruber, J. J., Litzenger, U. M., Zhou, Y. n., Miao, Y. R., LaGory, E. L., Li, A. M., Hu, Z. n., Yip, M. n., Hart, L. S., Maris, J. M., Chang, H. Y., Giaccia, et al  
2020; 11 (2): 102
  - **Acetate supplementation eliminates hypoxia mediated resistance to differentiation therapy in neuroblastoma cells**  
Li, Y., Zhou, Y., Maris, J. M., Giaccia, A. J., Ye, J.  
AMER ASSOC CANCER RESEARCH.2019
  - **ATF4 couples MYC-dependent translational activity to bioenergetic demands during tumour progression.** *Nature cell biology*  
Tameire, F., Verginadis, I. I., Leli, N. M., Polte, C., Conn, C. S., Ojha, R., Salas Salinas, C., Chinga, F., Monroy, A. M., Fu, W., Wang, P., Kossenkov, A., Ye, et al  
2019; 21 (7): 889–99
  - **p53 Suppresses Metabolic Stress-Induced Ferroptosis in Cancer Cells** *CELL REPORTS*  
Tarangelo, A., Magtanong, L., Biegging-Rolett, K. T., Li, Y., Ye, J., Attardi, L. D., Dixon, S. J.  
2018; 22 (3): 569–75
  - **GCN2 sustains mTORC1 suppression upon amino acid deprivation by inducing Sestrin2** *GENES & DEVELOPMENT*  
Ye, J., Palm, W., Peng, M., King, B., Lindsten, T., Li, M. O., Koumenis, C., Thompson, C. B.  
2015; 29 (22): 2331-2336
  - **Translational Upregulation of an Individual p21(Cip1) Transcript Variant by GCN2 Regulates Cell Proliferation and Survival under Nutrient Stress** *PLOS GENETICS*  
Lehman, S. L., Cerniglia, G. J., Johannes, G. J., Ye, J., Ryeom, S., Koumenis, C.  
2015; 11 (6)
  - **Serine Catabolism Regulates Mitochondrial Redox Control during Hypoxia** *CANCER DISCOVERY*  
Ye, J., Fan, J., Venneti, S., Wan, Y., Pawel, B. R., Zhang, J., Finley, L. W., Lu, C., Lindsten, T., Cross, J. R., Qing, G., Liu, Z., Simon, et al  
2014; 4 (12): 1406-1417
  - **Quantitative flux analysis reveals folate-dependent NADPH production (vol 510, pg 298, 2014)** *NATURE*  
Fan, J., Ye, J., Kamphorst, J. J., Shlomi, T., Thompson, C. B., Rabinowitz, J. D.  
2014; 513 (7519): 574-574
  - **Induction of sarcomas by mutant IDH2** *GENES & DEVELOPMENT*  
Lu, C., Venneti, S., Akalin, A., Fang, F., Ward, P. S., DeMatteo, R. G., Intlekofer, A. M., Chen, C., Ye, J., Hameed, M., Nafa, K., Agaram, N. P., Cross, et al  
2013; 27 (18): 1986-1998
  - **SnapShot: Cancer Metabolism Pathways** *CELL METABOLISM*  
Finley, L. W., Zhang, J., Ye, J., Ward, P. S., Thompson, C. B.  
2013; 17 (3): 466-?
  - **Pyruvate kinase M2 promotes de novo serine synthesis to sustain mTORC1 activity and cell proliferation** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Ye, J., Mancuso, A., Tong, X., Ward, P. S., Fan, J., Rabinowitz, J. D., Thompson, C. B.  
2012; 109 (18): 6904-6909
  - **Modulation of CCAAT/Enhancer Binding Protein Homologous Protein (CHOP)-dependent DR5 Expression by Nelfinavir Sensitizes Glioblastoma Multiforme Cells to Tumor Necrosis Factor-related Apoptosis-inducing Ligand (TRAIL)** *JOURNAL OF BIOLOGICAL CHEMISTRY*  
Tian, X., Ye, J., Alonso-Basanta, M., Hahn, S. M., Koumenis, C., Dorsey, J. F.  
2011; 286 (33): 29408-29416

- **PERK promotes cancer cell proliferation and tumor growth by limiting oxidative DNA damage** *ONCOGENE*  
Bobrovnikova-Marjon, E., Grigoriadou, C., Pytel, D., Zhang, F., Ye, J., Koumenis, C., Cavener, D., Diehl, J. A.  
2010; 29 (27): 3881-3895
- **The GCN2-ATF4 pathway is critical for tumour cell survival and proliferation in response to nutrient deprivation** *EMBO JOURNAL*  
Ye, J., Kumanova, M., Hart, L. S., Sloane, K., Zhang, H., De Panis, D. N., Bobrovnikova-Marjon, E., Diehl, J. A., Ron, D., Koumenis, C.  
2010; 29 (12): 2082-2096
- **ATF4, an ER Stress and Hypoxia-Inducible Transcription Factor and its Potential Role in Hypoxia Tolerance and Tumorigenesis** *CURRENT MOLECULAR MEDICINE*  
Ye, J., Koumenis, C.  
2009; 9 (4): 411-416
- **Preferential Cytotoxicity of Bortezomib toward Hypoxic Tumor Cells via Overactivation of Endoplasmic Reticulum Stress Pathways** *CANCER RESEARCH*  
Fels, D. R., Ye, J., Segan, A. T., Kridel, S. J., Spiotto, M., Olson, M., Koong, A. C., Koumenis, C.  
2008; 68 (22): 9323-9330
- **Hypoxia and the unfolded protein response** *OXYGEN BIOLOGY AND HYPOXIA*  
Koumenis, C., Bi, M., Ye, J., Feldman, D., Koong, A. C.  
2007; 435: 275-?